

## SEQUENCE LISTING

<110> Ian M. Whitehead  
 Alan Slusarenko  
 Duncan Gaskin  
 Alan Brash  
 Nathalie Tijet

<120> GUAVA (PSIDIUM GUAJAVA) 13-HYDROPEROXIDE  
 LYASE AND USES THEREOF

<130> 06027.0001U3

<140> 09/578,533

<141> 2000-05-24

<160> 27

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 1

Thr Tyr Pro Pro Ser Leu Ser

1

5

<210> 2

<211> 476

<212> PRT

<213> Psidium Guajava (guava)

<400> 2

206070-16624007

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 Leu Leu Gly Pro Ile Ser Asp Arg Leu Asp Tyr Phe Trp Phe Gln Gly  
 35 40 45  
 Pro Glu Thr Phe Phe Arg Lys Arg Ile Glu Lys Tyr Lys Ser Thr Val  
 50 55 60  
 Phe Arg Ala Asn Val Pro Pro Cys Phe Pro Phe Phe Ser Asn Val Asn  
 65 70 75 80  
 Pro Asn Val Val Val Val Leu Asp Cys Glu Ser Phe Ala His Leu Phe  
 85 90 95  
 Asp Met Glu Ile Val Glu Lys Ser Asn Val Leu Val Gly Asp Phe Met  
 100 105 110  
 Pro Ser Val Lys Tyr Thr Gly Asn Ile Arg Val Cys Ala Tyr Leu Asp  
 115 120 125  
 Thr Ser Glu Pro Gln His Ala Gln Val Lys Asn Phe Ala Met Asp Ile  
 130 135 140  
 Leu Lys Arg Ser Ser Lys Val Trp Glu Ser Glu Val Ile Ser Asn Leu  
 145 150 155 160  
 Asp Thr Met Trp Asp Thr Ile Glu Ser Ser Leu Ala Lys Asp Gly Asn  
 165 170 175  
 Ala Ser Val Ile Phe Pro Leu Gln Lys Phe Leu Phe Asn Phe Leu Ser  
 180 185 190  
 Lys Ser Ile Ile Gly Ala Asp Pro Ala Ala Ser Pro Gln Val Ala Lys  
 195 200 205  
 Ser Gly Tyr Ala Met Leu Asp Arg Trp Leu Ala Leu Gln Leu Leu Pro  
 210 215 220  
 Thr Ile Asn Ile Gly Val Leu Gln Pro Leu Val Glu Ile Phe Leu His  
 225 230 235 240  
 Ser Trp Ala Tyr Pro Phe Ala Leu Val Ser Gly Asp Tyr Asn Lys Leu  
 245 250 255  
 Tyr Gln Phe Ile Glu Lys Glu Gly Arg Glu Ala Val Glu Arg Ala Lys  
 260 265 270  
 Ala Glu Phe Gly Leu Thr His Gln Glu Ala Ile His Asn Leu Leu Phe  
 275 280 285  
 Ile Leu Gly Phe Asn Ala Phe Gly Gly Phe Ser Ile Phe Leu Pro Thr  
 290 295 300

10042991 01090

Leu Leu Ser Asn Ile Leu Ser Asp Thr Thr Gly Leu Gln Asp Arg Leu  
 305 310 315 320  
 Arg Lys Glu Val Arg Ala Lys Gly Gly Pro Ala Leu Ser Phe Ala Ser  
 325 330 335  
 Val Lys Glu Met Glu Leu Val Lys Ser Val Val Tyr Glu Thr Leu Arg  
 340 345 350  
 Leu Asn Pro Pro Val Pro Phe Gln Tyr Ala Arg Ala Arg Lys Asp Phe  
 355 360 365  
 Gln Leu Lys Ser His Asp Ser Val Phe Asp Val Lys Lys Gly Glu Leu  
 370 375 380  
 Leu Cys Gly Tyr Gln Lys Val Val Met Thr Asp Pro Lys Val Phe Asp  
 385 390 395 400  
 Glu Pro Glu Ser Phe Asn Ser Asp Arg Phe Val Gln Asn Ser Glu Leu  
 405 410 415  
 Leu Asp Tyr Leu Tyr Trp Ser Asn Gly Pro Gln Thr Gly Thr Pro Thr  
 420 425 430  
 Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val Thr Leu Thr Ala  
 435 440 445  
 Cys Leu Phe Val Ala Tyr Met Phe Arg Arg Tyr Asn Ser Val Thr Gly  
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<210> 3

<211> 480

<212> PRT

<213> Psidium Guajava (guava)

<400> 3

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 20 25 30  
 Tyr Gly Trp Pro Leu Leu Gly Pro Ile Ser Asp Arg Leu Asp Tyr Phe  
 35 40 45  
 Trp Phe Gln Gly Pro Glu Thr Phe Phe Arg Lys Arg Ile Glu Lys Tyr  
 50 55 60  
 Lys Ser Thr Val Phe Arg Ala Asn Val Pro Pro Cys Phe Pro Phe Phe  
 65 70 75 80

206070" T662400T

Ser Asn Val Asn Pro Asn Val Val Val Val Leu Asp Cys Glu Ser Phe  
                     85                    90                    95  
 Ala His Leu Phe Asp Met Glu Ile Val Glu Lys Ser Asn Val Leu Val  
                     100                    105                    110  
 Gly Asp Phe Met Pro Ser Val Lys Tyr Thr Gly Asn Ile Arg Val Cys  
                     115                    120                    125  
 Ala Tyr Leu Asp Thr Ser Glu Pro Gln His Ala Gln Val Lys Asn Phe  
                     130                    135                    140  
 Ala Met Asp Ile Leu Lys Arg Ser Ser Lys Val Trp Glu Ser Glu Val  
 145                    150                    155                    160  
 Ile Ser Asn Leu Asp Thr Met Trp Asp Thr Ile Glu Ser Ser Leu Ala  
                     165                    170                    175  
 Lys Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln Lys Phe Leu Phe  
                     180                    185                    190  
 Asn Phe Leu Ser Lys Ser Ile Ile Gly Ala Asp Pro Ala Ala Ser Pro  
                     195                    200                    205  
 Gln Val Ala Lys Ser Gly Tyr Ala Met Leu Asp Arg Trp Leu Ala Leu  
                     210                    215                    220  
 Gln Leu Leu Pro Thr Ile Asn Ile Gly Val Leu Gln Pro Leu Val Glu  
 225                    230                    235                    240  
 Ile Phe Leu His Ser Trp Ala Tyr Pro Phe Ala Leu Val Ser Gly Asp  
                     245                    250                    255  
 Tyr Asn Lys Leu Tyr Gln Phe Ile Glu Lys Glu Gly Arg Glu Ala Val  
                     260                    265                    270  
 Glu Arg Ala Lys Ala Glu Phe Gly Leu Thr His Gln Glu Ala Ile His  
                     275                    280                    285  
 Asn Leu Leu Phe Ile Leu Gly Phe Asn Ala Phe Gly Gly Phe Ser Ile  
                     290                    295                    300  
 Phe Leu Pro Thr Leu Leu Ser Asn Ile Leu Ser Asp Thr Thr Gly Leu  
 305                    310                    315                    320  
 Gln Asp Arg Leu Arg Lys Glu Val Arg Ala Lys Gly Gly Pro Ala Leu  
                     325                    330                    335  
 Ser Phe Ala Ser Val Lys Glu Met Glu Leu Val Lys Ser Val Val Tyr  
                     340                    345                    350  
 Glu Thr Leu Arg Leu Asn Pro Pro Val Pro Phe Gln Tyr Ala Arg Ala  
                     355                    360                    365  
 Arg Lys Asp Phe Gln Leu Lys Ser His Asp Ser Val Phe Asp Val Lys  
                     370                    375                    380

206070" T662400F

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<210> 4
<211> 483
<212> PRT
<213> Psidium Guajava (quava)
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Ser	Pro	Pro	Ser	Ser	Pro	Arg	Pro	Thr	Thr	Leu	Pro	Val	Arg	Thr	Ile
			20					25					30		
Pro	Gly	Ser	Tyr	Gly	Trp	Pro	Leu	Leu	Gly	Pro	Ile	Ser	Asp	Arg	Leu
		35					40					45			
Asp	Tyr	Phe	Trp	Phe	Gln	Gly	Pro	Glu	Thr	Phe	Phe	Arg	Lys	Arg	Ile
	50					55					60				
Glu	Lys	Tyr	Lys	Ser	Thr	Val	Phe	Arg	Ala	Asn	Val	Pro	Pro	Cys	Phe
65					70					75					80
Pro	Phe	Phe	Ser	Asn	Val	Asn	Pro	Asn	Val	Val	Val	Val	Leu	Asp	Cys
			85						90					95	
Glu	Ser	Phe	Ala	His	Leu	Phe	Asp	Met	Glu	Ile	Val	Glu	Lys	Ser	Asn
			100						105				110		
Val	Leu	Val	Gly	Asp	Phe	Met	Pro	Ser	Val	Lys	Tyr	Thr	Gly	Asn	Ile
		115						120				125			
Arg	Val	Cys	Ala	Tyr	Leu	Asp	Thr	Ser	Glu	Pro	Gln	His	Ala	Gln	Val
	130						135				140				
Lys	Asn	Phe	Ala	Met	Asp	Ile	Leu	Lys	Arg	Ser	Ser	Lys	Val	Trp	Glu
145					150						155				160

Ser Glu Val Ile Ser Asn Leu Asp Thr Met Trp Asp Thr Ile Glu Ser  
 165 170 175  
 Ser Leu Ala Lys Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln Lys  
 180 185 190  
 Phe Leu Phe Asn Phe Leu Ser Lys Ser Ile Ile Gly Ala Asp Pro Ala  
 195 200 205  
 Ala Ser Pro Gln Val Ala Lys Ser Gly Tyr Ala Met Leu Asp Arg Trp  
 210 215 220  
 Leu Ala Leu Gln Leu Leu Pro Thr Ile Asn Ile Gly Val Leu Gln Pro  
 225 230 235 240  
 Leu Val Glu Ile Phe Leu His Ser Trp Ala Tyr Pro Phe Ala Leu Val  
 245 250 255  
 Ser Gly Asp Tyr Asn Lys Leu Tyr Gln Phe Ile Glu Lys Glu Gly Arg  
 260 265 270  
 Glu Ala Val Glu Arg Ala Lys Ala Glu Phe Gly Leu Thr His Gln Glu  
 275 280 285  
 Ala Ile His Asn Leu Leu Phe Ile Leu Gly Phe Asn Ala Phe Gly Gly  
 290 295 300  
 Phe Ser Ile Phe Leu Pro Thr Leu Leu Ser Asn Ile Leu Ser Asp Thr  
 305 310 315 320  
 Thr Gly Leu Gln Asp Arg Leu Arg Lys Glu Val Arg Ala Lys Gly Gly  
 325 330 335  
 Pro Ala Leu Ser Phe Ala Ser Val Lys Glu Met Glu Leu Val Lys Ser  
 340 345 350  
 Val Val Tyr Glu Thr Leu Arg Leu Asn Pro Pro Val Pro Phe Gln Tyr  
 355 360 365  
 Ala Arg Ala Arg Lys Asp Phe Gln Leu Lys Ser His Asp Ser Val Phe  
 370 375 380  
 Asp Val Lys Lys Gly Glu Leu Leu Cys Gly Tyr Gln Lys Val Val Met  
 385 390 395 400  
 Thr Asp Pro Lys Val Phe Asp Glu Pro Glu Ser Phe Asn Ser Asp Arg  
 405 410 415  
 Phe Val Gln Asn Ser Glu Leu Leu Asp Tyr Leu Tyr Trp Ser Asn Gly  
 420 425 430  
 Pro Gln Thr Gly Thr Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys  
 435 440 445  
 Asp Tyr Val Thr Leu Thr Ala Cys Leu Phe Val Ala Tyr Met Phe Arg  
 450 455 460

206070" T662400F  
 1004991 010902

Arg Tyr Asn Ser Val Thr Gly Ser Ser Ser Ser Ile Thr Ala Val Glu  
 465 470 475 480  
 Lys Ala Asn

<210> 5

<211> 8

<212> PRT

<213> Psidium Guajava (guava)

<400> 5

Met Ala Arg Val Val Met Ser Asn  
 1 5

<210> 6

<211> 488

<212> PRT

<213> Psidium Guajava (guava)

<400> 6

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 Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg Pro Thr Thr Leu  
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 Pro Val Arg Thr Ile Pro Gly Ser Tyr Gly Trp Pro Leu Leu Gly Pro  
 35 40 45  
 Ile Ser Asp Arg Leu Asp Tyr Phe Trp Phe Gln Gly Pro Glu Thr Phe  
 50 55 60  
 Phe Arg Lys Arg Ile Glu Lys Tyr Lys Ser Thr Val Phe Arg Ala Asn  
 65 70 75 80  
 Val Pro Pro Cys Phe Pro Phe Phe Ser Asn Val Asn Pro Asn Val Val  
 85 90 95  
 Val Val Leu Asp Cys Glu Ser Phe Ala His Leu Phe Asp Met Glu Ile  
 100 105 110  
 Val Glu Lys Ser Asn Val Leu Val Gly Asp Phe Met Pro Ser Val Lys  
 115 120 125  
 Tyr Thr Gly Asn Ile Arg Val Cys Ala Tyr Leu Asp Thr Ser Glu Pro  
 130 135 140

206070" T662400T

Gln His Ala Gln Val Lys Asn Phe Ala Met Asp Ile Leu Lys Arg Ser  
 145 150 155 160  
 Ser Lys Val Trp Glu Ser Glu Val Ile Ser Asn Leu Asp Thr Met Trp  
 165 170 175  
 Asp Thr Ile Glu Ser Ser Leu Ala Lys Asp Gly Asn Ala Ser Val Ile  
 180 185 190  
 Phe Pro Leu Gln Lys Phe Leu Phe Asn Phe Leu Ser Lys Ser Ile Ile  
 195 200 205  
 Gly Ala Asp Pro Ala Ala Ser Pro Gln Val Ala Lys Ser Gly Tyr Ala  
 210 215 220  
 Met Leu Asp Arg Trp Leu Ala Leu Gln Leu Leu Pro Thr Ile Asn Ile  
 225 230 235 240  
 Gly Val Leu Gln Pro Leu Val Glu Ile Phe Leu His Ser Trp Ala Tyr  
 245 250 255  
 Pro Phe Ala Leu Val Ser Gly Asp Tyr Asn Lys Leu Tyr Gln Phe Ile  
 260 265 270  
 Glu Lys Glu Gly Arg Glu Ala Val Glu Arg Ala Lys Ala Glu Phe Gly  
 275 280 285  
 Leu Thr His Gln Glu Ala Ile His Asn Leu Leu Phe Ile Leu Gly Phe  
 290 295 300  
 Asn Ala Phe Gly Gly Phe Ser Ile Phe Leu Pro Thr Leu Leu Ser Asn  
 305 310 315 320  
 Ile Leu Ser Asp Thr Thr Gly Leu Gln Asp Arg Leu Arg Lys Glu Val  
 325 330 335  
 Arg Ala Lys Gly Gly Pro Ala Leu Ser Phe Ala Ser Val Lys Glu Met  
 340 345 350  
 Glu Leu Val Lys Ser Val Val Tyr Glu Thr Leu Arg Leu Asn Pro Pro  
 355 360 365  
 Val Pro Phe Gln Tyr Ala Arg Ala Arg Lys Asp Phe Gln Leu Lys Ser  
 370 375 380  
 His Asp Ser Val Phe Asp Val Lys Lys Gly Glu Leu Leu Cys Gly Tyr  
 385 390 395 400  
 Gln Lys Val Val Met Thr Asp Pro Lys Val Phe Asp Glu Pro Glu Ser  
 405 410 415  
 Phe Asn Ser Asp Arg Phe Val Gln Asn Ser Glu Leu Leu Asp Tyr Leu  
 420 425 430  
 Tyr Trp Ser Asn Gly Pro Gln Thr Gly Thr Pro Thr Glu Ser Asn Lys  
 435 440 445

10049910100  
 206010" T662400F



Gln Cys Ala Ala Lys Asp Tyr Val Thr Leu Thr Ala Cys Leu Phe Val  
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 Ala Tyr Met Phe Arg Arg Tyr Asn Ser Val Thr Gly Ser Ser Ser Ser  
 465 470 475 480  
 Ile Thr Ala Val Glu Lys Ala Asn  
 485

<210> 7

<211> 1431

<212> DNA

<213> Psidium Guajava (guava)

<400> 7

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ctggactact tctggttcca aggcccgag acgttcttca ggaagaggat cgagaagtac	180
aagagcaccg tgttccgcgc gaacgtgcct ccgtgcttcc ctttcttctc gaacgtgaac	240
cctaacgtcg tggcgtcct cgattgcgag tccttcgctc acttgttcga catggagatc	300
gtggagaaga gcaacgtcct cgtcggcgac ttcatgccga gcgtgaagta caccgggaac	360
atccgggtct gcgcttacct cgacacttcc gagcctcaac acgctcaggt gaagaacttt	420
gcatgagaca tactgaagag gagctccaaa gtgtgggaga gcgaagtgat ctggaacttg	480
gacaccatgt gggacaccat cgagtccagc ctgcgaagg acggcaacgc cagcgtcatc	540
ttccctctcc aaaagtctct cttcaacttc ctctccaagt ccatcatcgg cgctgacccg	600
gccgcctcgc cgcaggtggc caagtccggc tacgccatgc ttgaccggtg gctcgtctc	660
cagctcctcc ccaccatcaa cattggcgta ctgcagcctc tagtggagat ttttctgcat	720
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<210> 8

&lt;211&gt; 1443

&lt;212&gt; DNA

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 8

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tga 1443

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&lt;210&gt; 9

&lt;211&gt; 1452

&lt;212&gt; DNA

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 9

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ctcggccccga tatcggaccg cctggactac ttctggttcc aaggccccga gacgtttcttc 180  
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 cttgaccggt ggctcgctct ccagctcctc cccaccatca acattggcgt actgcagcct 720  
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 tcgaacaagc agtgcgcggc taaggactac gtcacctca ccgcttgtct cttcgttgcc 1380  
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 aaggccaact ga 1452

<210> 10

<211> 1467

<212> DNA

<213> Psidium Guajava (guava)

<400> 10

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 tacgggtggc ccctcctcgg ccgatatcg gaccgcctgg actacttctg gttccaaggc 180  
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 tccaaagtgt gggagagcga agtgatctcg aacttggaca ccatgtggga caccatcgag 540

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 tccggctacg ccatgcttga ccggtggctc gctctccagc tctccccac catcaacatt 720  
 ggcgtactgc agcctctagt ggagattttt ctgcattctt gggcataccc ttttgcgctg 780  
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 ggaacgccga ccgagtcgaa caagcagtcg cgggctaagg actacgtcac cctcaccgct 1380  
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<210> 11

<211> 1443

<212> DNA

<213> Capsicum annum (green pepper)

<400> 11

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<210> 12

<211> 1638

<212> DNA

<213> Musa sp. (banana)

<400> 12

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taaggagacg gccaaactcca ccgttgctaa ttcaagtcgt actccaaatc ggtattcata 1560
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aaaaaaaaaa aaaaaaaaaa 1638

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<210> 13

<211> 11

<212> PRT

<213> Psidium Guajava (guava)

<400> 13

Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln

1

5

10

<210> 14

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 14

Asn Phe Ala Met Asp Ile Leu

1

5

<210> 15

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 15

Phe Leu Phe Asn Phe Leu Ser

1

5

<210> 16

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

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<223> Description of artificial sequence:  
/note=synthetic construct

<400> 16

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27

<210> 17

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:  
/note=synthetic construct

<400> 17

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21

<210> 18

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:  
/note=synthetic construct

<400> 18

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26

<210> 19

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:  
/note=synthetic construct

&lt;400&gt; 19

gcggatccgg ccatgtcgtc cacctac

27

&lt;210&gt; 20

&lt;211&gt; 8

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 20

Thr Tyr Pro Pro Ser Leu Ser Pro

1

5

&lt;210&gt; 21

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 21

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser

1

5

10

&lt;210&gt; 22

&lt;211&gt; 12

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 22

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro

1

5

10

&lt;210&gt; 23

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 23

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg

1

5

10

206070 T662400F



&lt;210&gt; 24

&lt;211&gt; 14

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 24

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg Pro

1

5

10

&lt;210&gt; 25

&lt;211&gt; 480

&lt;212&gt; PRT

&lt;213&gt; Capsicum annum (green pepper)

&lt;400&gt; 25

Met Ile Pro Ile Met Ser Ser Ala Pro Leu Ser Thr Ala Thr Pro Ile

1

5

10

15

Ser Leu Pro Val Arg Lys Ile Pro Gly Ser Tyr Gly Phe Pro Leu Leu

20

25

30

Gly Pro Leu Trp Asp Arg Leu Asp Tyr Asn Trp Phe Gln Lys Leu Pro

35

40

45

Asp Phe Phe Ser Lys Arg Val Glu Lys Tyr Asn Ser Thr Val Phe Arg

50

55

60

Thr Asn Val Pro Pro Cys Phe Pro Phe Phe Leu Gly Val Asn Pro Asn

65

70

75

80

Val Val Ala Val Leu Asp Val Lys Ser Phe Ala His Leu Phe Asp Met

85

90

95

Glu Ile Val Glu Lys Ala Asn Val Leu Val Gly Asp Phe Met Pro Ser

100

105

110

Val Val Tyr Thr Gly Asp Met Arg Val Cys Ala Tyr Leu Asp Thr Ser

115

120

125

Glu Pro Lys His Thr Gln Ile Lys Asn Phe Ser Leu Asp Ile Leu Lys

130

135

140

Arg Ser Ser Lys Thr Trp Val Pro Thr Leu Val Lys Glu Leu Asp Thr

145

150

155

160

Leu Phe Gly Thr Phe Glu Ser Asp Leu Ser Lys Ser Lys Ser Ala Ser

165

170

175

205070 T664007

Leu Leu Pro Ala Leu Gln Lys Phe Leu Phe Asn Phe Phe Ser Leu Thr  
 180 185 190  
 Phe Leu Gly Ala Asp Pro Ser Ala Ser Pro Glu Ile Ala Asn Ser Gly  
 195 200 205  
 Phe Ala Tyr Leu Asp Ala Trp Leu Ala Ile Gln Leu Ala Pro Thr Val  
 210 215 220  
 Ser Ile Gly Val Leu Gln Pro Leu Glu Glu Ile Phe Val His Ser Phe  
 225 230 235 240  
 Ser Tyr Pro Tyr Phe Leu Val Arg Gly Gly Tyr Glu Lys Leu Ile Lys  
 245 250 255  
 Phe Val Lys Ser Glu Ala Lys Glu Val Leu Thr Arg Ala Gln Thr Asp  
 260 265 270  
 Phe Gln Leu Thr Glu Gln Glu Ala Ile His Asn Leu Leu Phe Ile Leu  
 275 280 285  
 Gly Phe Asn Ala Phe Gly Gly Phe Thr Ile Phe Leu Pro Thr Leu Leu  
 290 295 300  
 Gly Asn Leu Gly Asp Glu Lys Asn Ala Glu Met Gln Glu Lys Leu Arg  
 305 310 315 320  
 Lys Glu Val Arg Glu Lys Val Gly Thr Asn Gln Glu Asn Leu Ser Phe  
 325 330 335  
 Glu Ser Val Lys Glu Met Glu Leu Val Gln Ser Phe Val Tyr Glu Ser  
 340 345 350  
 Leu Arg Leu Ser Pro Pro Val Pro Ser Gln Tyr Ala Arg Ala Arg Lys  
 355 360 365  
 Asp Phe Met Leu Ser Ser His Asp Ser Val Tyr Glu Ile Lys Lys Gly  
 370 375 380  
 Glu Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Lys Asp Pro Lys Val  
 385 390 395 400  
 Phe Asp Glu Pro Glu Lys Phe Met Leu Glu Arg Phe Thr Lys Glu Lys  
 405 410 415  
 Gly Lys Glu Leu Leu Asn Tyr Leu Phe Trp Ser Asn Gly Pro Gln Thr  
 420 425 430  
 Gly Ser Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Ala Val  
 435 440 445  
 Thr Leu Thr Ala Ser Leu Ile Val Ala Tyr Ile Phe Gln Lys Tyr Asp  
 450 455 460  
 Ser Val Ser Phe Ser Ser Gly Ser Leu Thr Ser Val Lys Lys Ala Cys  
 465 470 475 480

205070 T662100F

&lt;210&gt; 26

&lt;211&gt; 483

&lt;212&gt; PRT

&lt;213&gt; Musa sp. (banana)

&lt;400&gt; 26

Met Ala Met Met Trp Ser Ser Ala Ser Ala Thr Ala Val Thr Thr Leu  
 1 5 10 15  
 Pro Thr Arg Pro Ile Pro Gly Ser Tyr Gly Pro Pro Leu Val Gly Pro  
 20 25 30  
 Leu Lys Asp Arg Leu Asp Tyr Phe Thr Phe Gln Gly Pro Glu Thr Phe  
 35 40 45  
 Phe Arg Ser Arg Met Ala Thr His Lys Ser Thr Val Phe Arg Thr Asn  
 50 55 60  
 Met Pro Pro Thr Phe Pro Phe Phe Val Gly Val Asp Pro Arg Val Val  
 65 70 75 80  
 Thr Val Leu Asp Cys Thr Ser Phe Ser Ala Leu Phe Asp Leu Glu Val  
 85 90 95  
 Val Glu Lys Lys Asn Ile Leu Ile Gly Asp Tyr Met Pro Ser Leu Ser  
 100 105 110  
 Phe Thr Gly Asp Thr Arg Val Val Val Tyr Leu Asp Pro Ser Glu Pro  
 115 120 125  
 Asp His Ala Arg Val Lys Ser Phe Cys Leu Glu Leu Leu Arg Arg Gly  
 130 135 140  
 Ala Lys Thr Trp Val Ser Ser Phe Leu Ser Asn Leu Asp Val Met Leu  
 145 150 155 160  
 Ala Thr Ile Glu Gln Gly Ile Ala Lys Asp Gly Ser Ala Gly Leu Phe  
 165 170 175  
 Gly Pro Leu Gln Lys Cys Ile Phe Ala Phe Leu Cys Lys Ser Ile Ile  
 180 185 190  
 Gly Ala Asp Pro Ser Val Ser Pro Asp Val Gly Glu Asn Gly Phe Val  
 195 200 205  
 Met Leu Asp Lys Trp Leu Ala Leu Gln Leu Leu Pro Thr Val Lys Val  
 210 215 220  
 Gly Ala Ile Pro Gln Pro Leu Glu Glu Ile Leu Leu His Ser Phe Pro  
 225 230 235 240  
 Leu Pro Phe Phe Leu Val Ser Arg Asp Tyr Arg Lys Leu Tyr Glu Phe  
 245 250 255

206070" T662400T

Val Glu Lys Gln Gly Gln Glu Val Val Arg Arg Ala Glu Thr Glu His  
 260 265 270  
 Gly Leu Ser Lys His Asp Ala Ile Asn Asn Ile Leu Phe Val Leu Gly  
 275 280 285  
 Phe Asn Ala Phe Gly Gly Phe Ser Val Phe Phe Pro Thr Leu Leu Thr  
 290 295 300  
 Thr Ile Gly Arg Asp Lys Thr Gly Leu Arg Glu Lys Leu Lys Asp Glu  
 305 310 315 320  
 Val Arg Arg Val Met Lys Ser Arg Gly Glu Lys Arg Pro Ser Phe Glu  
 325 330 335  
 Thr Val Arg Glu Met Glu Leu Val Arg Ser Thr Val Tyr Glu Val Leu  
 340 345 350  
 Arg Leu Asn Pro Pro Val Pro Leu Gln Tyr Gly Arg Ala Arg Thr Asp  
 355 360 365  
 Phe Thr Leu Asn Ser His Asp Ala Ala Phe Lys Val Glu Lys Gly Glu  
 370 375 380  
 Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Arg Asp Pro Ala Val Phe  
 385 390 395 400  
 Asp Asp Pro Glu Thr Phe Ala Pro Glu Arg Phe Met Gly Ser Gly Lys  
 405 410 415  
 Glu Leu Leu Lys Tyr Val Phe Trp Ser Asn Gly Pro Glu Thr Gly Thr  
 420 425 430  
 Pro Thr Pro Ala Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val Val Glu  
 435 440 445  
 Thr Ala Cys Leu Leu Met Ala Glu Ile Phe Tyr Arg Tyr Asp Glu Phe  
 450 455 460  
 Val Cys Ala Asp Asp Ala Ile Ser Val Thr Lys Leu Asp Arg Ala Arg  
 465 470 475 480  
 Glu Trp Glu

&lt;210&gt; 27

&lt;211&gt; 1464

&lt;212&gt; DNA

&lt;213&gt; Psidium Guajava

&lt;400&gt; 27

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 ctgtccccgc cgtcgtcgcc gcggccgacc accctcccg tgccgacgat cccgggcagc

60

120

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ccggagacgt	tcttcaggaa	gaggatcgag	aagtacaaga	gcaccgtgtt	ccgcgcgaac	240
gtgcctccgt	gcttccccctt	cttctcgaac	gtgaagccta	acgtcgtggg	cgtcctcgat	300
tgcgagtcct	tcgctcactt	gttcgacatg	gagatcgtgg	agaagagcaa	cgtcctcgtc	360
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cggttcgtcc	aaaacagcga	gctactggat	tacctgtact	ggccaacagg	gccgcagacc	1320
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